



King County

Environmental Purchasing

2001 Annual Report



Environmental Purchasing Program
Procurement and Contract Services Division
www.metrokc.gov/procure/green



King County
Procurement and Contract Services Division
Department of Finance

Environmental Purchasing Program 2001 Annual Report Executive Summary

In the past year, King County has purchased almost **3.8 million dollars** worth of “Environmentally Preferable” (EP) products, **saving \$580,000** by doing so. EP products include those that have recycled content, reduce waste, use less energy, are less toxic, and are more durable. The Environmental Purchasing Program has earned national recognition as one of the most effective such programs in the Country.

The King County Recycled Product Procurement Policy (CON-7-1-1), adopted in 1989, directed County agencies to purchase recycled and environmentally preferable products "whenever practicable."

In 1995, the goals of Executive Policy were extended to include other EP materials and processes (CON-7-1-2). The King County Environmental Purchasing Program helps County agencies with information about EP products and processes that economically meet performance requirements.

Implementation of this policy relies on the judgment of the people who actually use the products in their daily work. The goal established in ordinance (KCC 10.16) is the purchase of EP materials "whenever practicable," essentially a goal of 100% of what is realistic. The program enables agencies to use their own professional judgment to evaluate and adopt new opportunities as they are identified.

In recognition of these efforts, King County earned the first Recycled Product Procurement Award of the National Recycling Coalition in 1991. In 1998, the County received the first annual Environmental Purchasing Award of the National Association of Counties (NACo), which recognized the County as a national leader in municipal procurement of recycled and environmentally preferable materials. And, in 2000, the County received the 2000 Recycling at Work Award from the US Conference of Mayors for the work of this program. Further, program staff participated in a national forum hosted by the Office of the Federal Environmental Executive, called “Greening the Government” and the program is featured in EPA guidance (EPA publication *State and Local Government pioneers*) as a model for other jurisdictions.

The program assembles data on agency purchases and produces an annual report (attached) to the County Council on the status of policy implementation and accomplishments of County agencies. In 2001, recycled paper represented over 97% of King County paper purchases, totaling 2.6 million dollars. Recycled paper is used for all major government functions, including more than nine million bus schedules, tax statements, court forms, pet license notifications, business cards, reports, stationery, and internal printing.



King County purchases many other recycled and EP products, beyond paper. These include remanufactured toner cartridges, recycled plastic can-liners, tire-retreading services, re-refined antifreeze and motor-oil (used by all County fleets, including the fleet of 1200 METRO buses), plastic lumber, recycled plastic park furnishings, compost, shredded wood-waste, recycled glass sand, glass and recycled concrete aggregate, and hybrid vehicles. The County spent almost 1.2 million dollars on these recycled products, and saved \$580,000 by their purchase in 2001.

Agencies continue to evaluate opportunities to use environmentally preferable products, such as cleaners, recycled content carpet, energy-efficient equipment, and low-toxicity pest-control methods and to incorporate sustainable building methods into construction.

Program success depends on enabling agencies to appreciate the new opportunities being created in a changing marketplace, and information is the central component of the program. In addition to producing educational seminars on specific opportunities, the program makes extensive use of the Internet. It uses email to distribute an "Environmental Purchasing Bulletin" to agency liaisons and maintains a web-site (www.metrokc.gov/procure/green) to make information available to agencies, suburban cities, and the community at large on the environmental purchasing experience of County agencies.

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I. King County Environmental Purchasing Program

This annual report summarizes the achievements of King County agencies from July 1, 2000 through June 30, 2001, pursuant to the King County Environmental Purchasing Policy.

In the past year, King County continued to increase its use and awareness of environmentally preferable products. In fact, the County received national attention in 2000 when the **Office of the Federal Environmental Executive** invited King County to present its Environmental Purchasing Program as a case study at the Government to Government - Smart Green Purchasing Conference. The first of its kind, this national conference brought together the most active and accomplished people in the field of Environmental Purchasing. Also in 2000, the **Environmental Protection Agency** (EPA) published "**State and Local Government Pioneers: How State and Local Governments are Implementing Environmentally Preferable Purchasing Practices**" highlighting King County as one of the first and best. King County is maintaining this position of leadership through the efforts and accomplishments of County employees who actively pursue ways to use environmentally preferable materials in new applications and work with vendors to promote the development of viable and economical environmental products. This report represents the progress of agencies toward the goals of the policy.

The Policy www.metrokc.gov/procure/green/policy.htm

The County's Environmental Purchasing Policy reflects a long-term commitment to the purchase of environmentally preferable (EP) materials. King County adopted its Recycled Product Procurement Policy (KCC 10.16, Executive Policy CON 7-1-2 – AEP) in 1989. The policy directs County agencies to purchase recycled and other environmentally preferable products "whenever practicable."

In 1995, the County's Executive Policy was revised and simplified, to reflect the experience of five years of implementation by King County agencies. The revised policy requires County agencies to purchase "environmentally preferable"* products whenever practicable and expands the commitment of agencies to other environmentally preferable initiatives such as reduction of the use of toxic materials, energy conservation, waste-reduction, and "green-building."

*King County defines "Environmentally preferable" as having a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product.

The Program

The Environmental Purchasing Program aims to fundamentally change the procurement practices of the 13,000 employees of King County and its contractors. With the full participation of the people in the agencies who make purchasing decisions, the County can attain its goal of buying recycled and other environmentally preferable products whenever practicable. The program provides County personnel with information and technical assistance to help them identify economical and effective recycled and environmentally preferable products and creates contracts for their purchase. The program helps

agencies understand policy requirements and communicates specifications, contracts, and other practical information between County agencies, vendors, users, and other jurisdictions.

The program's collaborative approach, which relies on the expertise of County employees to evaluate procurement opportunities and revise procedures, is gradually changing the way agencies view these opportunities. County agencies have responded by developing ways to increase the use of recycled and other environmentally preferable products, especially where these will reduce costs, while still meeting performance standards.

Implementation

The **Procurement and Contract Services Division** of the King County **Department of Finance** administers the **Environmental Purchasing Program** to help County agencies increase their purchase of environmentally preferable products. The program:

- researches recycled and environmentally preferable products, applications, and vendors and communicates this information to agencies to help them make purchasing decisions;
- encourages agencies to evaluate new products, assists in development of specifications and contracts, and disseminates evaluation results;
- maintains an Internet website and produces an e-mail bulletin to provide users with information about the performance, cost, and availability of recycled and environmentally preferable materials, and about policy implementation strategies;
- reviews policy requirements with agencies and monitors the status of policy implementation;
- transmits the annual report of the King County Environmental Purchasing Program to the County Council, County agencies, suburban cities, other jurisdictions, and the larger community, to promote the exchange of information between personnel in County agencies and their counterparts in other organizations;
- coordinates development and implementation of policy models and procurement guidelines and recommends revisions to County policy;
- provides technical support to the outreach programs of the Department of Natural Resources to facilitate the implementation of policies favoring recycled and environmentally preferable procurement by suburban cities in King County;
- ensures that contracts issued by the County require recycled and environmentally preferable components whenever practicable and that contractors provide certification of this content and report amounts purchased; and
- assembles and disseminates evaluation results and reports of environmental purchases by agencies and their contractors.

The Challenges

A number of factors challenge efforts to increase environmental purchasing:

- project managers, designers, and contractors are not familiar with the use of many recycled and other environmentally preferable products and are uncertain of the ways in which they might be effectively specified and applied as substitutes for familiar products;
- developers of environmentally preferable products are often in the early stages of identifying the needs of potential customers and establishing the production, marketing, and distribution capacity to meet them;
- the use of a product must be economically responsible; the cost must be competitive, and contractors must have developed the processes and skills needed for its economical use;
- many products must meet rigorous standards maintained by various governmental and industry regulators and the modification of these standards can be a painstaking, slow, and expensive process. As these standards and specifications are often still under development, manufacturers, regulators, and users may not be equipped to deal with new materials effectively;
- developing and administering data-collection procedures to obtain information from construction and other service contracts is time-consuming and places unfamiliar demands on participants, which can be costly; and
- it is not yet clear what attributes are most "Environmentally Preferable," and how to balance competing claims of environmental preferability. The specifier must decide, for example, how much weight to give recycled content and how much to give low toxicity; or how to balance recyclability against energy efficiency. These questions need to be decided case-by-case, at this point. In the future, we expect trade associations and/or government regulators to develop standards and specifications that will clarify these issues.

The Opportunities

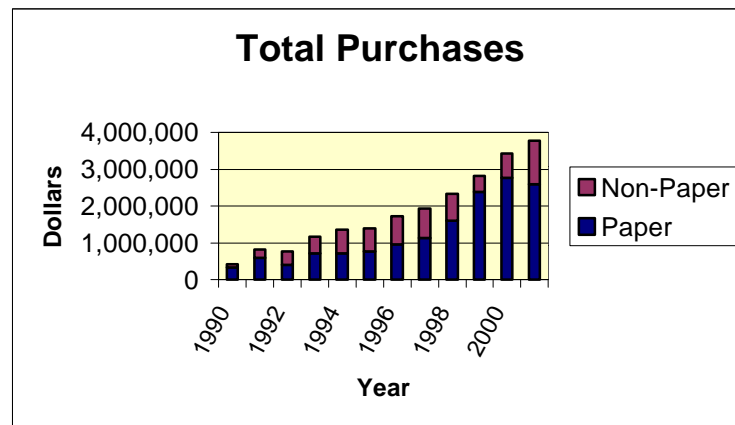
The Program and County agencies are addressing these challenges by:

- maintaining liaisons between agencies and the Environmental Purchasing Program to facilitate policy implementation and data collection;
- assembling detailed application information and performance data from product users and manufacturers and disseminating this to potential users in the County;
- seeking new applications for recycled and other environmental products and encouraging supply and contract managers to specify them whenever possible;

- helping agencies develop specifications for environmental products whenever evaluations establish that product performance and cost are acceptable;
- evaluating environmental product performance in new applications through testing and pilot programs and sharing the results through our website, the email “Environmental Purchasing Bulletin,” and by other means with agencies, jurisdictions, and other users;
- helping potential suppliers obtain feedback from users to assist them in product development and helping them understand King County procurement processes; and
- expanding our communication network so we can share information about our experiences with other organizations.

II. Purchases & Savings

In the past year, King County has **purchased nearly 3.8 million dollars** worth of Environmentally Preferable products, **saving over \$580,000** by doing so. EP products include those that have recycled content, reduce waste, use less energy, are less toxic, and are more durable. The Environmental Purchasing Program has earned national recognition as one of the most effective such programs in the Country due, in part, to our emphasis on cost-effective products.



Paper Purchase Summary

King County purchases most printing and office supply paper through centrally administered term-supply contracts, which enable agencies to purchase hundreds of paper products at low and consistent prices. Recycled paper is specified whenever practicable.

Recycled paper purchases have grown from 8% at the start of policy implementation in 1989 to 97% in 2001, exceeding the 60% goal established in policy. King County agencies purchased recycled paper goods valued at almost **2.6 million dollars** in 2001.

The table below shows the dollar value and percentage of total recycled paper purchases for 2001 by category.

2000-2001 Recycled Paper Purchases		\$	%
Photocopy and Bond Paper		558,797	98
Printing Paper*		1,544,960	98
Paper Products, Miscellaneous		493,342	94
Totals:		2,597,099	97

*Estimated cost of paper only, does not include printing costs

Paper Purchase Detail

King County purchases of paper fall into three general categories:

- **Photocopy and Bond Paper** supplied to County agencies meets the requirement of 30% post-consumer recycled content established by Federal Executive Order 13101. County purchases of recycled paper totaled almost **\$560,000** for the 2001 reporting year, **98%** of total copy paper purchases.
- **Printing** by the County Printshop and through contracts administered by the Procurement Services Division use recycled paper whenever practicable. During 2001, recycled paper purchases reached **98%**, totaling over **1.5 million dollars**. All new printing contracts executed this year required the use of recycled paper.
- **Other Paper Products** purchased include office supplies, such as envelopes, boxes, folders and notepads, and janitorial products, such as paper towels and tissues. **94%** of these met recycled-content standards in 2001, and totaled almost **\$500,000**.

Non-Paper Purchase Summary

The purchase of non-paper environmentally preferable products is less straightforward than that of paper products. These products are often not well established in the marketplace and are often purchased within complex engineering and construction contracts. Purchases depend on the specifications of designers, based on project-specific materials requirements; acceptance by State, Federal, and other external standards organizations (e.g. ASTM, AASHTO); product performance, price, and availability; and the ability of contractors to deliver the expertise required for their use.

The table below summarizes year 2001 environmentally preferable non-paper product purchases. The County purchased approximately **1.2 million dollars** worth of these products in the past year. These numbers are obtained from “term” supply contracts and direct purchase orders. Term contracts require vendors to report purchases to the Environmental Purchasing Program and the program's liaison network captures data when agencies purchase products by other means. More details about these purchases and how they performed follow in the “Purchase Detail” section.

The table below shows units and dollars purchased during the 2001 reporting year:

Commodity Purchases	Per	Units	\$
Aggregate, Recycled Concrete	Ton	2,249	17,994
Antifreeze, Remanufactured	Gallon	15,625	40,785
Asphalt, Cold Patch	Ton	10	4,000
Can Liners, Recycled	Case	8,212	129,380
Compost	Yard	1,437	23,725
Hydrostripping Services	N/A	N/A	3,600
Oil, Re-refined	Gallon	81,942	205,235
Plastic Lumber	Each	505	12,220
Rain Barrels	Each	20	2,500
Shredded Wood	Yard	91,295	69,174
Tire Retreading	N/A	N/A	150,574
Toner Cartridges, Remanufactured	Each	4,783	155,648
Vehicles, Hybrid	Each	20	373,000
Total Dollars:	N/A	N/A	1,187,835

Non-Paper Purchase Detail

Purchases of non-paper materials require evaluation and application development by engineers, architects, and other professionals. This section provides details of some of the ways in which County agencies are addressing the challenges presented by these materials.

Aggregate, Recycled Concrete

Recycled concrete aggregate has been used in various King County projects for the past ten years. Last year, the **Operations** section of **Roads Division** purchased **2,250 yards** of recycled concrete (and asphalt), at a cost of **\$18,000**, for use in small projects. Using recycled material in place of increasingly scarce and expensive native rock aggregate saves money, as well as diverting material from the waste-stream. For more information, visit the program website at: www.metrokc.gov/procure/green/concrete.htm

The specifications used by managers of capital projects typically permit contractors to use recycled materials within specified limits. Since many of the County's contractors obtain materials from suppliers who routinely incorporate recycled concrete to "extend" standard aggregate, it is likely that substantial amounts of recycled material are being used in this way, but data is not readily available.

Antifreeze

Antifreeze, manufactured with re-refined ethylene glycol, is purchased under a contract maintained by **Procurement Services Division** since 1991. In 2001, **Motor Pool, Solid Waste Operations, and the Renton Maintenance Facility** used over **1,350 gallons** of re-refined antifreeze and **returned 750 gallons** of spent antifreeze to the supplier for "closed-loop" re-refining into new

antifreeze. This contract also requires that the material be re-refined in a manner that meets all regulatory requirements, thereby avoiding the discharge of a toxic material into local waterways and ensuring compliance with State and Federal regulations.

In February of 1999, the County's **Metro Transit** Division awarded a contract for re-refined concentrated ethylene glycol antifreeze for buses. They introduce the "additive packages" in the maintenance shops. In 2001, they purchased approximately **14,250 gallons** of re-refined antifreeze, at a cost of over **\$35,000**, and **saved over \$25,000** by its use.

Total purchases, in 2000, including Transit and other County fleets were **15,625 gallons**, at a cost of **\$40,785**. For more information about King County's use of antifreeze, visit the program website at: www.metrokc.gov/procure/green/antifrz.htm

Asphalt

In 2000, the **King County Roads Operations** section initiated an evaluation of the performance of a new **cold-patch** compound that reduces the amount of Volatilizing Organic Compounds (VOCs) released to the environment. This product is a dry, odorless, ready-to-use asphalt-based compound used to repair potholes, cracks, and other defects in paved surfaces. It contains 70% post-consumer asphalt. Since the beginning of the year, King County has purchased 400 50 lb. bags, or **10 tons**, of this product at a cost of **\$4000**. According to the manufacturer, this amounts to 200 55 gal. drums worth of VOC's prevented from being introduced into the air and water in King County so far this year. In 2001, Roads decided to include this cold-patch product on its roads maintenance materials contract. For more information, visit the program website at: www.metrokc.gov/procure/green/bul65.htm

Can-Liners

In 2001, King County purchased nearly **8,200 cases** of can-liners at a cost of almost **\$130,000**. These were made with 25%-30% high-density polyethylene (HDPE) or 25% low-density polyethylene (LDPE) recycled post-consumer plastic. Recycled plastic bags have been used with good results since 1991. For more information, visit the program website at: www.metrokc.gov/procure/green/plasbags.htm

Compost

Compost-amended topsoil is specified for use in maintenance and construction projects. **The Roads Engineering Section** reported that in the past year, their contractors used over **550 cubic yards**, at an installed cost of approximately **\$14,000**. Twenty percent of the material used was **biosolids compost** and eighty percent was **yard-waste compost**. In addition, **Roads Operations** purchased **880 cubic yards**, amounting to **\$9800** for use in maintenance projects. Other County agencies use compost in small projects for which data is not readily available. Further information about the use of compost by County agencies is available on the program website at: www.metrokc.gov/procure/green/compost.htm

Glass – Filtration Sand

The **Department of Parks and Recreation** began using recycled glass sand in place of conventional filter sand in the pool filters at the **King County Aquatics Center** in Federal Way, where an initial eighteen tons of recycled glass was installed in 1998. The cost is roughly the same as that of virgin sand, but the new material appears to be out-performing the usual

product. Monitoring data suggest that this material filters more efficiently and produces clearer water. In fact, when the scheduled “change-out” date arrived, the water-purity analysis indicated that the filter medium was performing so well that replacement could be delayed, resulting in a significant cost saving and a lack of purchases for the year. It is not clear yet just how long this medium will continue to perform well without replacement, but the management is monitoring this and is optimistic that further savings are possible. The performance improvements will also save the County money in energy, water, and sewerage costs. Since the results have been positive, King County Parks has established a purchase contract for recycled glass sand for use by all of their pools, and has converted several more pools to this material. For more information, visit the program website at:
www.metrokc.gov/procure/green/pksglass.htm

In 2000, Metro Transit undertook a pilot project to use recycled glass as a filtration medium in stormwater systems at a County “Park & Ride” lot. According to the agency, it appears to perform adequately, although it has not yet completed analysis of data generated by this pilot. The agency reports it is “learning an unexpected amount about filter design, through this project,” which it hopes will produce quantitative performance measures for further evaluation.

Hydrostripping

At the end of 2000, the King County **Traffic** section’s **sign shop** set up a pilot program for hydrostripping damaged aluminum signs. Hydrostripping uses high pressure water to remove paint and laminate from signs, and the water is re-used to minimize environmental impact. In 2001, the County established a contract for these services and has so far spent **\$3600**. The new process will also afford significant savings to be reported next year when there is more data available for a cost comparison.

Lubricants – Vegetable-based

Vegetable-oil based lubricants are emerging as a high-performance, environmentally friendly alternative to the more commonly purchased petroleum oil lubricants. Users choose these lubricants because they can perform as well or better than petroleum oils, are readily biodegradable and low in toxicity, and offer worker safety advantages.

Hydraulic oils are of specific concern because they are often lost to the environment in the normal course of equipment operation. The King County **Renton Equipment Shop** now specifies that new turf equipment be filled by the manufacturer with vegetable-based oils and is moving ahead with the purchase of these hydraulic oils for all their equipment. The shops are moving away from petroleum lubricants wherever possible, working to comply with provisions of the Federal Endangered Species Act and other regulations intended to protect our sensitive waterways and groundwater.

This fall, King County plans to obtain bids for vegetable-based hydraulic oil, two-cycle engine oil, and bar & chain oil. For more information, visit the program website at:
www.metrokc.gov/procure/green/bul59.htm

Oil, Re-refined

Motor oil made with re-refined base-stock has been used in County vehicles operated by the **Renton Maintenance Facility**, and **Solid Waste Operations** since 1992. In 1999, the

Transit Division began evaluating the use of re-refined oil in their buses. They tested 15W40 oil in all of the coaches at one of their downtown bus bases and the trials showed re-refined oil to be equal in price and performance to virgin oil. In the Fall of 1999, METRO Transit became one of the first major metropolitan Transit authorities in the nation to adopt the use of re-refined motor oil for its entire fleet of over 1200 buses. Please see the press release for more information: www.metrokc.gov/exec/news/2000/021400.htm

Since 1998, **Medic-One** emergency vehicles, operated by the **Department of Public Health** have obtained warranty-maintenance service from their Ford dealership using re-refined oil.

In 2001, the County purchased over **80,000 gallons** of re-refined oil at a cost of over **\$205,000**. For more information on re-refined oil, visit the program website at: www.metrokc.gov/procure/green/oil.htm

Oil Recycling

True “**closed-loop**” recycling, in which agencies return used oil to a re-refiner for recycling, has not been consistently available or economical in our area. The program continues to encourage agencies to re-evaluate these opportunities each time a new Invitation-To-Bid is issued.

Plastic Lumber – Equipment Shop

The **Renton Maintenance Facility** of the **Fleet Administration Division** requires new dump trucks to be outfitted with recycled plastic sideboards before delivery. High-quality old growth fir had been customarily used in this application, but it is increasingly scarce and expensive. Since 1996, the Division has been retrofitting all of its trucks with recycled plastic because it is more impact-resistant and needs to be replaced less frequently, saving money in the long-term despite its somewhat higher initial cost. In fact, there is no spending to report this year, because no replacement was needed this year. Because replacement frequency has been reduced from two wooden sideboards per week to fewer than one plastic sideboard per month, the Division is **saving \$10,000 per year** in materials costs alone. For more information, visit the program website at: www.metrokc.gov/procure/green/errlbr.htm

Plastic Lumber – Parks Applications

Parks Division has purchased **plastic lumber** for various park furnishings, including benches, tables, and playground equipment. For many of these applications, plastic lumber is preferred for its resistance to decay, graffiti and chemical damage. This material results in significant cost-savings when used as a substitute for chemically treated lumber in applications involving contact with soil and water and in other high-maintenance environments.

The **Parks Division** began construction of a **recycled plastic boardwalk** in September, 2000 at Luther Burbank Park on Mercer Island. They purchased two different kinds of plastic lumber for the project – 100% plastic and a plastic/wood composite, at a cost of approximately **\$12,000**. They received a Community Action Grant to help fund this project and are using volunteers for the project.

Since 1997, **Parks Division** has installed playground structures made with recycled plastic, steel, and aluminum. In the past year, three parks received these new installations.

The Division also used plastic lumber in 1998 for engraved posts at 17 campground sites and 8 water stations at the **Tolt River Campground** and Parks personnel are testing the plastic to determine how well this material will endure contact with soil and water. Wooden posts in this environment must be replaced every 4 or 5 years and Parks personnel expect recycled plastic will greatly reduce replacement costs. No new purchases have been made in the past year, but Parks personnel report that the recycled plastic markers installed three years ago are performing well.

Parks Division purchased **two** recycled plastic picnic tables in 2001 for East Norway Hill, and plans to order eight more this summer to replace older wood tables. They have purchased recycled plastic picnic tables in the past and have been satisfied with their results.

Images of these and other recycled plastic park furnishings can be found on the program website at: www.metrokc.gov/procure/green/images.htm

Rainbarrels

Roads Division purchased **twenty** 90-gallon recycled plastic rain barrels for a trial at their Renton location. The barrels are complete with hardware, an overflow spigot and two spigots for water - one for a watering can, one for a garden hose. They have been able to use the water for irrigation. The Roads crew has also installed a 500-gallon cistern at their shop on Vashon Island. The water collected here is used to fill street sweepers and rollers.

Shredded Wood

Wood chips made from shredded land-clearing debris is used by the **Solid Waste Division** for temporary road surface at the Cedar Hills Landfill and as landscape mulch in County projects. The **Cedar Hills landfill** uses this material to provide stable driving-surfaces, especially during rainy seasons. The landfill purchased **over 90,000 cubic yards** of wood-mulch, at a cost of **almost \$70,000** in 2001, **saving an estimated \$90,000** by using wood-mulch instead of virgin aggregate. For more information, visit the program website at: www.metrokc.gov/procure/green/swhog.htm

Tire Retreading

Tire retreading services worth **over \$150,000** were used to retread tires for trucks and other heavy equipment at the **Renton Maintenance Facility, Fleet Division** and the **Cedar Hills Landfill** of the **Solid Waste Division**. Retreading a tire costs about half as much as buying a new tire. This not only avoided landfill disposal of tires, but also **saved** the County **approximately \$150,000** in new-tire expense in 2001.

Toner Cartridges, Remanufactured

Remanufactured toner cartridges for laser printers are purchased under a contract developed in collaboration with local vendors and maintained by the Environmental Purchasing Program since 1991. Cartridges supplied under this contract must meet original equipment manufacturer's (OEM) standards and provide full performance guarantees. In 2001, the County purchased **4,765 cartridges**, at a cost of **approximately \$155,500**. These purchases **saved \$300,000**, as the cost of these remanufactured cartridges is approximately one-third the cost of new cartridges. Spent cartridges are remanufactured and all components are recycled when their useful life is over, reducing the landfill disposal of hazardous material. The

current contract has increased the number of items from 13 to 63, including ink-jet cartridges, fax and other toner cartridges, all at significant cost-savings. For more information, visit the program website at:
www.metrokc.gov/procure/green/tonecart.htm.

Vehicles, Hybrid

King County is purchasing hybrid electric vehicles (HEVs) that increase fuel-efficiency and reduce greenhouse gas emissions. The County's **Department of Transportation** purchased **20** hybrid Toyota Prius Cars for **\$373,000** in 2001. These hybrid electric vehicles combine the internal combustion engine of a conventional vehicle with the battery and electric motor of an electric vehicle, and attain twice the fuel economy of conventional vehicles. This combination offers the extended range and rapid refueling of a conventional vehicle, with a significant portion of the energy and environmental benefits of an electric vehicle. The practical benefits of HEVs include improved fuel economy and lower emissions compared to conventional vehicles. The first of these were delivered in June, at roughly the same cost as typical vehicles. They are expected to attain 50 miles per gallon. The Department of Transportation has plans to purchase more vehicles this Fall. For more information, see the Environmental Purchasing Bulletin on the program website at: www.metrokc.gov/procure/green/bul66.htm

Savings Summary

In 2001, the County **saved over \$580,000** by purchasing recycled materials. The table below shows these savings by commodity. Additional examples of savings can be found in Section III, "Environmental Initiatives of County Agencies" of this report (see page 12).

The Environmental Purchasing Program has helped agencies identify opportunities to purchase environmentally preferable products that not only perform well, but also save money. In some cases, the product simply costs less and in other cases there are savings in installation and maintenance costs. For example: the cost of a remanufactured toner cartridge is about one-third the cost of a new cartridge; shredded wood costs less than virgin aggregate; plastic lumber avoids the consumption of virgin timber and reduces maintenance cost; buying concrete aggregate avoids the consumption of virgin aggregate; and it costs half as much to retread a worn tire as to buy a new one.

Commodity	2001 Dollar Savings
Toner cartridges	300,000
Tire Retreading	150,000
Shredded Wood	92,000
Antifreeze	26,000
Plastic lumber	10,000
Glass Sand	2,500
Total Dollars:	\$580,500

The amounts shown above reflect only the cost of materials and do not include savings in labor costs for installation or maintenance.

III. Environmental Initiatives of County Agencies

The King County Environmental Purchasing Program helps County agencies find ways to use environmentally preferable products and processes in their work. This section contains information about the results of several initiatives by which County agencies are saving time, money, and resources.

The categories of work included in this year's report are:

Green Building / Sustainable Design

Water Conservation

Hazardous Waste Reduction

Air Quality

Energy Conservation

Green Building / Sustainable Design

Green Building Program, Solid Waste Division, Department of Natural Resources

At the direction of the King County Executive, the King County Department of Natural Resources created a "Green Building Team" in 2000, with participation from several Departments and Divisions. This team has drafted a "Green Building Initiative," and expects it to be adopted later this year. The Green Building Team defines "green building" as "designing, constructing and operating buildings and landscapes to incorporate energy efficiency, water conservation, waste minimization, pollution prevention, resource-efficient materials, and indoor environmental quality in all phases of a building's life."

In addition to coordinating this effort, the Department of Natural Resources provided two training sessions. In 2001, twenty-six county staff attended an advanced LEED (Leadership in Energy and Environmental Design) Training.

King County has had a green building accomplishment that has helped define and focus its current effort. The County built the King Street Center, a sustainable building, in 1999. King Street Center was one of seven buildings in the state to win the Energy Star Label, of the Environmental Protection Agency, in 2001, scoring the highest among them for energy efficiency. This label is placed on buildings that are in the top 25 percent in terms of energy performance. In the face of rising energy costs, King Street Center has saved approximately \$100,000 over projected energy costs since its opening in 1999. For more information, visit the program website at: <http://dnr.metrokc.gov/greenworks/>

Water Conservation

Water Reuse Program, Department of Natural Resources

The King County Department of Natural Resources operates two wastewater treatment plants, with another on the drawing-boards, and has initiated programs to reclaim and reuse water that has been processed in those facilities. This water is currently being used in pilot projects to

irrigate sports fields and golf courses and in various industrial processes. While not approved for drinking, it is deemed safe for these uses by the Department of Public Health.

The pilot projects are part of a long-term effort to conserve water and turn used water into a resource. The County already irrigates its Fort Dent Park, and many of its newly planted projects, with reclaimed water. This year, County agencies are exploring the use of reclaimed water for daily County operations such as irrigation, cleaning streets, bus stops and sidewalks, and washing runways at King County International Airport. For more information, visit the program website at: <http://dnr.metrokc.gov/WTD/rwsp/approved/reuse.htm> or view the press release at: www.metrokc.gov/procure/green/bul64.htm

Water Reclamation, Roads Division

In response to near drought/low rainfall conditions, the Roads Division has responded with several initiatives. They have formed a drought team, purchased twenty 90-gallon rain barrels and installed a 500-gallon cistern at their shop on Vashon Island. They are also using reclaimed water from the Renton wastewater treatment plant to water new plantings whenever possible. Some of these measures have not yet been cost effective, but it's been useful to try these alternative measures.

Hazardous Waste Reduction

Integrated Pest Management Program, Hazardous Waste Management Program

In 1999, the County formally developed an Integrated Pest Management (IPM) Program by adopting policy and guidelines to reduce overall use of pesticides on public lands. An IPM steering committee, facilitated by the King County Hazardous Waste Management Program and composed of personnel from Parks, Roads, Airport, Facilities Management, and other agencies collaborate to implement this policy. The first priority has been to phase out the most hazardous pesticides, which are listed as "Tier One" products in the guidelines. According to their 2000 status report: "the total use of pesticides decreased 50 percent from 1999 to 2000." The status report is available on the IPM program website at: www.metrokc.gov/hazwaste/ipm.

Fluorescent lamp recycling

In the year 2000, King County established a contract for recycling of waste lamps, including fluorescent tubes and High Intensity Discharge (HID) lamps. Under this contract, the recycler charges 4 to 6 cents per foot for fluorescent tubes and approximately 75 cents each for HID lamps. **Airport and Transit Divisions** spent **\$1700** in the past year, and we expect other agencies to participate in coming years.

Federal, state, and local regulations prohibit businesses from sending fluorescent lamps to landfills, because they contain significant amounts of toxic mercury. The new regulations require lamps to be recycled. For more information: www.metrokc.gov/procure/green/bul60.htm

Air Quality

Low-Sulfur Diesel Fuel, Metro Transit, Department of Transportation

Metro buses are getting new catalytic soot filters that, together with new ultra-low sulfur diesel fuel, will reduce emissions by more than 90 percent. King County Metro is joining with other local governments and private companies to clean up existing fleets of diesel engines in the region. For more information, the press release is available on the King County website at: www.metrokc.gov/kcdot/news/picturearch/pw010709_cleanair.htm

Clean Air Initiative, Department of Natural Resources

At the direction of the King County Executive, the King County Department of Natural Resources has drafted a "Clean Air Initiative," and expects it to be adopted later this year. This Initiative's purpose is "to reduce emissions of greenhouse gases and other significant air pollutants from King County operations and to use King County programs and policies to encourage their reduction from other sources in the region."

The Initiative calls for an inventory of greenhouse gas emissions to be performed this fall and winter to identify the activities that produce the largest emissions. This data will be used to create an action plan for change.

Information about global climate change has been the driver for change already taking place in the County, such as the purchase of hybrid vehicles, the installation of particulate traps on existing county buses and conversion of diesel fuels to ultra-low-sulfur grade. Adopting the "Clean Air Initiative" will enhance these projects.

Energy Conservation

Fuel Cell Technologies, Wastewater Treatment Division

In January, 2001, the Wastewater Treatment Division entered into a contract for a demonstration project that will use methane from treatment facilities to create fuel cells that will then be used to power operations, thereby lowering electricity costs. For more information, see the press release on the program website at: <http://dnr.metrokc.gov/dnradmin/press/x10125fc.htm>

Energy Conservation Program, Department of Construction and Facilities Management

Operational changes at County facilities, in the first six months of 2001, have resulted in dramatic energy and dollar savings. The use of electricity, natural gas and steam has been reduced by over 20 percent in downtown office buildings. These energy saving measures has resulted in a \$250,000 savings. For more information, see the press release on the program website at: www.metrokc.gov/exec/news/2001/072401.htm

IV. Supporting Program Elements

The Environmental Purchasing Program helps agencies develop practical ways to use recycled and other environmentally preferable products and processes, through several program elements, detailed in this section.

Agency Liaison Network

The program uses a network of liaisons within agencies to provide users with information on environmentally preferable products and processes. These liaisons allow us to get close to the people who do the daily work and who can help us understand the roles and functions within each unit. This helps us to communicate new evaluation opportunities, institutionalize the routine use of these materials, and share evaluation results and specifications among agencies.

Internet Information Project

The communications capacity of the Internet has brought great changes to the way this program delivers information to its clients. This annual report, for example, is distributed principally through e-mail, with only a few paper copies produced. The program delivers most of its information to clients through email or the world-wide-web.

Website www.metrokc.gov/procure/green

The King County Environmental Purchasing Program has maintained a website **since 1995**, as a resource to participants in the King County program as well as others in the community. There were **100,000** visitors to the Program website in the past year. Clients visiting this website find information on King County's experiences with recycled and environmentally preferable products, specifications, evaluations, contracts, and contact information.

Municipalities and other organizations throughout the nation are beginning to recognize the difference they can make to the environment by purchasing environmentally preferable products. Thanks to the leadership of King County agencies, purchasers are able to use the Internet to find information that will help them understand their opportunities in this confusing new area.

People from all over the world are taking advantage of this site and these contacts are bringing new information that County agencies, suburban cities, and others can use as we all try to develop new applications for recycled and other environmentally preferable products.

In the past year, comments have been left at the program website by visitors from:

Universities/Schools of:

Montana State University Extension
University of Portsmouth, UK

University of Puerto Rico
University of Hong Kong

The Nations of:

Australia	China	Croatia
England	Guatemala	India
Iran	Korea	Nepal
New Zealand	Nigeria	Peru
Philippines	Portugal	Singapore
South Africa	United Kingdom	

The States of:

California	Hawaii	Maine
Minnesota	New Mexico	New York
Ontario, Canada	Texas	Washington

The Counties of:

Alameda, CA	Chautauqua, NY	Contra Costa, CA
Dublin, VA	Grays Harbor, WA	Kitsap County, WA
San Joaquin, CA	Washtenaw, MI	

The Cities of:

Adelaide Australia	Albany, GA	Argonne, IL
Anacortes, WA	Auburn, WA	Augusta, GA
Austin, TX	Barcelona, Spain	Boulder, CO
Brookline, MA	Canberra Australia	Coral Springs, FL
Dallas, TX	Dalton, GA	Davidsonville, MD
Edison, NJ	Grand Coulee, WA	Gurnee, IL
Houston, TX	Huntington Beach, CA	Irving, TX
Kent, WA	Key West, FL	Kingston, NY
Kowloon, Hong Kong	Lookout Mountain, TN	Lucedale, MS
Miami, FL	Mt. Dora, FL	New Orleans, LA
New York City, NY	Nelson, BC, Canada	Norfolk, VA
Pensacola, FL	Portland, OR	Philadelphia, PA
Pleasanton, CA	QingDao, China	Rhinebeck, NY
Sammamish, WA	San Diego, CA	Seattle, WA
Solana Beach, CA	Sumner, WA	Surrey, BC, Canada
Tacoma, WA	Tehran, Iran	Toledo, OH
Valley Forge, PA	Washington, DC	Wellington, FL

E-mail Environmental Purchasing Bulletin

The Program began producing an “Environmental Purchasing Bulletin” in 1997 to disseminate information about recycled and environmentally preferable products, events, contracts, and other resources. Recipients include participants in the program’s County liaison network, suburban cities, and others across the nation. As of June, 2001, there are over **500** direct recipients of this bulletin. Many of these recipients originate their own list-servs and newsletters and forward the bulletin to others by those means. An index and the full contents of past bulletins can be found on the program website at:
www.metrokc.gov/procure/green/bulindex.htm.

Bulletins for 2000/2001:

- Recycled Glass Sandblasting Abrasives
- The Computer Recovery Project
- The Greening of the Olympic Games
- Green Home-Building
- Certified Wood
- 2000 Environmental Purchasing Annual Report
- Waste Reduction/Prevention During the Holidays?
- Vegetable Oil-Based Hydraulic Fluids
- New Fluorescent Tube Recycling Rules
- Seattle's Leadership in Green Building
- More on Seattle Green Building
- Fly Ash in Concrete
- Reclaimed Water

Internet Discussion Groups

We participate in several Internet discussion groups, where we exchange environmental purchasing information with other jurisdictions, many of which now subscribe to our Environmental Purchasing Bulletin. The participants come from across the nation and bring a wide range of experience, which has been shared with County agencies for evaluation.

- **EPPNET** – the Environmentally Preferable Purchasing Network, sponsored by the Northeast Recycling Council (NERC). A discussion group on environmental purchasing issues.
- **Greenyes** – a discussion group on sustainable issues.
- **IAQ@Onelist.com** – a discussion group on indoor air quality issues.
- **Manitoba Green Procurement Network** – a Canadian discussion group on Canadian and U.S. green procurement issues.
- **Waste Prevention Forum** – a discussion group managed by King County Solid Waste Division, and part of the National Waste Prevention Coalition.

Public Involvement

The King County Environmental Purchasing Program offers its experience in support of the planning, policy-development, and procurement-education activities of local jurisdictions and other organizations.

The program provided technical assistance to, and exchanged information with, suburban cities in King County, as well as state and federal agencies, and other users. In 2000-2001, program personnel participated in the programs, conferences and workshops conducted by the following organizations:

For 2000-2001:

- **2001 Businesses for an Environmentally Sustainable Tomorrow (BEST) Business Awards**
Presentation of King County Environmental Purchasing program to Portland businesses (April, 2001 – Portland OR)
- **Government to Government: Smart Green Purchasing Conference**
The King County Environmental Purchasing Program was one of three case studies presented at this national meeting, which brought together experts and officials from federal and local government agencies to explore how to accelerate and expand environmentally preferable purchasing. (July, 2000 – Washington DC)
- **Oregon Natural Step Program**
Presentation of King County Environmental Purchasing Program (May, 2001 – Portland OR)
- **Pollution Prevention for Sustainable Cities: Improving Economic and Environmental Performance** - Presentation of King County Environmental Purchasing Program to Global Cities Project of the Philippine League of Cities (May, 2001 – Seattle, WA)
- **Southwest Public Recycling Association**
Participated in the annual conference, giving two presentations entitled “Tools for Purchasing Officials” and “King County Environmental Purchasing Case Study” (November, 2000 – Santa Fe, NM)
- **Washington State Recycling Association (WSRA) Annual Conference**
Presentation of King County Environmental Purchasing Program (May, 2001 – Yakima, WA)

Publicity

A key to the success of the King County Environmental Purchasing Program has been the exchange of practical information with other users of these unfamiliar materials. Many of these exchanges have come as a consequence of exposure through national magazines, newspapers, and other publications.

Among the publications which featured the King County Environmental Purchasing Program in 2000/2001:

ECOS, The Environmental Communiqué of the States, Spring, 2001:

(Publication of the Council of State Governments)

“Moving Beyond ‘Buy Recycled’”

www.newdream.org/procure/ecos.pdf

EPA’s State and Local Government Pioneers, November, 2000:

“How State and Local Governments are Implementing Environmentally Preferable Purchasing Practices” www.epa.gov/oppt/epp/pdfs/statenlocal.pdf

EPA WasteWise Update, June/July 2001:

Environmentally Preferable Purchasing

www.epa.gov/wastewise/pubs/wwupda15.pdf

EPP Update (EPA publication), September, 2000:

EPP Leaders Discuss Smart Green Purchasing

www.epa.gov/oppt/epp/pdfs/update7.pdf

EPP Update (EPA publication), February, 2001:

New Case Study Highlights State and Local Government EPP Initiatives

www.epa.gov/oppt/epp/pdfs/update8.pdf

Institute for Local Self-Reliance website, November, 2000:

“Green Procurement” www.ilsr.org/recycling/ftao40_green.html

King County Executive’s website, January, 2001:

“Sims lauds County’s recycling accomplishments;”

www.metrokc.gov/exec/news/2001/011001.htm

NIGP Public Purchaser, January, 2001:

“Going for the Green”

Resource Recycling, December, 2000:

Who uses re-refined oil? (Recycling in Cyberspace column)

The Business Consumer’s Advisor, November, 2000:

(Buyers Laboratory Inc. Publication) *Remanufactured Toner Cartridges Save Buyers Money*

Model Procurement Policy

Program personnel continued to promote the development of recycled and environmentally preferable procurement policies in suburban cities by providing technical support to the Solid Waste

Division's Waste Reduction/Recycling Section. The model was revised in 1997 to broaden the range of environmentally preferable products. Program personnel also provide direct technical assistance to suburban cities for policy implementation, including sharing contracts, specifications, and procurement strategies. According to the Solid Waste Division, twenty-one cities have adopted policies, based on King County's model, since 1992:

Bellevue	Burien	Carnation
Des Moines	Duvall	Enumclaw
Federal Way	Issaquah	Kent
Kirkland	Lake Forest Park	Mercer Island
Normandy Park	North Bend	Pacific
Redmond	Renton	SeaTac
Snoqualmie	Tukwila	Woodinville

Allied King County Programs

Many King County programs provide information and technical assistance to help citizens, businesses and County agencies find ways to help improve our environment. The Environmental Purchasing Program has collaborated with the following programs for the dissemination of information in 2000/01:

Waste Reduction and Recycling Programs - Business Programs, Solid Waste Division:

Waste Reduction, Recycling, Construction Recycling/Sustainable Building, Link-Up and GreenWorks programs provide technical assistance to County businesses to enhance waste reduction, recycling and buy-recycled practices and recognize these businesses for their efforts. For more information: <http://dnr.metrokc.gov/greenworks/>

LinkUp Program, Solid Waste Division

The LinkUp Program helps businesses and manufacturers to incorporate recycled materials into their products. The program offers free information resources, technical expertise and promotional assistance to eligible businesses throughout Puget Sound. For more information, visit the program website at: <http://dnr.metrokc.gov/market/LinkUp/>

Hazardous Waste Management Program

Provides technical assistance on hazardous-waste issues to businesses and citizens, including free waste audits. This group administers the Envirostars recognition program, to recognize businesses that reduce and/or properly manage hazardous waste. This program has taken the lead on the Tri-County Integrated Pest Management policy. Please see the "Environmental Initiatives" section (page 12) of this report for more information on the IPM program. For more information: www.metrokc.gov/hazwaste

Industrial Materials Exchange (IMEX), Department of Public Health

IMEX is a free service designed to match businesses that produce wastes, industrial by-products, or surplus materials with businesses that can use them productively. The program produces a catalogue to encourage waste exchanges, create opportunities for recycling and reduce landfill disposal of surplus materials. For more information, visit the program website at: www.metrokc.gov/hazwaste/imex/

Metropolitan King County

County Executive

Ron Sims

County Council

Maggi Fimia	District 1
Cynthia Sullivan	District 2
Louise Miller	District 3
Larry Phillips	District 4
Dwight Pelz	District 5
Rob McKenna	District 6
Pete von Reichbauer	District 7
Greg Nickels	District 8
Kent Pullen	District 9
Larry Gossett	District 10
Jane Hague	District 11
David Irons	District 12
Les Thomas	District 13

Department of Finance

Robert Cowan, Director

Procurement and Contract Services Division

David Leach, Manager

Environmental Purchasing

Eric Nelson, Program Coordinator
Karen Hamilton, Program Analyst



For more information about the King County Environmental Purchasing Program, please visit the program website at www.metrokc.gov/procure/green or contact:

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King County, Washington
Environmental Purchasing Program

www.metrokc.gov/procure/green